

## Wellcome Trust and drug giants fund gene marker database

Richard Woodman, *London*

A two year, £28m (\$44.8m) initiative to create a high quality map of genetic markers, which will be available to everyone without charge, has been launched by the Wellcome Trust together with a group of leading pharmaceutical companies and academic centres.

The collaborative effort, called the SNP Consortium, will seek to identify and analyse single nucleotide polymorphisms involved in disease processes so that safer and more effective drugs can be developed.

Single nucleotide polymorphisms, sometimes called "snips," are common variations that occur in human DNA. Scientists believe that the "snips" can help pinpoint the subtle genetic differences that predispose some people to disease and underlie the variability in individual responses to drugs.

"A large, high density and high quality single nucleotide polymorphism map will be of great utility to the medical research community, as it will help answer questions about genetic factors that contribute to disease susceptibility and

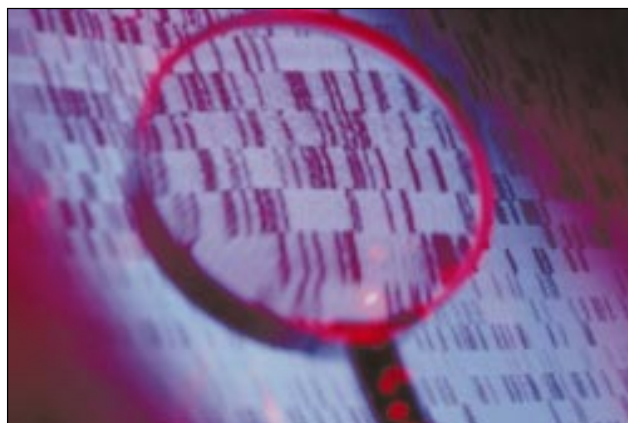
response to treatment, and [will] suggest directions for future investigation," said Arthur Holden, chairman and chief executive officer of the consortium.

"The members of the consortium believe that free and unrestricted access to this powerful tool will benefit scientific inquiry in industry, government, academic, and independent laboratories," he added.

The consortium intends to identify up to 300 000 "snips" and map at least 150 000 of them so that they can then be used in association studies. Single nucleotide polymorphism patterns from a target population—such as patients who have a particular disease or who respond poorly to a particular drug—would be compared with patterns from unaffected populations to find genetic variations shared only by the affected group.

From these association studies disease specific genes might be identified, and novel therapeutic avenues and even tailor made treatments might be expected to evolve.

Using DNA from a diversi-



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New drugs could be targeted at disease specific DNA sequences

fied, representative panel of anonymous volunteers, sequence information from the publicly funded Human Genome Project, and advanced sequencing and mapping technologies, scientists from the academic centres will identify and map the polymorphisms. The laboratories involved include: the Whitehead Institute in Cambridge, Massachusetts; the Washington University School of Medicine in St Louis, Missouri; the Stanford

Human Genome Center, in Palo Alto, California; Cold Spring Harbor Laboratory, New York state and the Wellcome Trust's Sanger Centre, in Cambridge, United Kingdom.

Cold Spring Harbor Laboratory will use computerised methods to organise, analyse, and manage the resulting single nucleotide polymorphism database, and will also distribute the information contained in the database. □

## Bone marrow transplants do not help in breast cancer

by Scott Gottlieb, *New York*

Preliminary results released early from four ongoing clinical studies of breast cancer treatments indicate that high dose chemotherapy followed by bone marrow transplantation may not significantly improve survival, although positive results from a fifth trial, also released early,

seem to suggest otherwise.

For almost a decade, ultra high doses of chemotherapy followed by a bone marrow transplant to rescue the destruction of the immune system caused by such regimens has become a preferred treatment in the United States for women with recurrent or advanced breast cancer. Thousands of women have demanded the procedure, and insurance companies routinely pay for it, even though there is no proof of its effectiveness.

Preliminary research released by the National Cancer Institute from four of the five long awaited studies of 2100 women in the US,

Scandinavia, and France, found no difference in survival between patients who had high dose chemotherapy with transplants, and those who had lower doses of chemotherapy.

The fifth study from South Africa did find a benefit in patients with positive lymph nodes. In this study, 154 women who got the high dose chemotherapy plus a transplant had suffered fewer cancer relapses in the five year period following the procedure. After more than five years of follow up, 17% who received transplants had died, compared with 35% in the other group.

Taken together, the five studies are not scheduled to conclude for another three to five years. Dr Alan Lichter, president of the American Society of Clinical Oncology, said in a conference call with reporters that the lack of conclusive findings thus far in the follow up suggests that if the procedure does eventually turn out to have a benefit, it will be small. The early results might "dispel the concern that if you're in a trial, and are not on the high dose arm you're really missing the boat," he added. □

Details of the studies are on the internet at [www.asco.org](http://www.asco.org).